REMARKS:

REMARKS REGARDING CLAIMS AMENDMENTS:

Transmissions of the "planetary gear type" have been used extensively in vehicles to provide variable gear drives. For further clarification claim 1 has been amended to recite "a transmission including a planetary gear drive." Support for use of the word "drive" exists on page 1, paragraph [0011] and paragraph [0012] of the published application (US 2004/0106486 A1) of the present invention.

New claim 8 clarifies that a gas turbine engine drives a transmission in the gas turbine arrangement that represents the subject matter of the present invention.

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Atty. Ref.: 7589.139.PCUS00

IN RESPONSE TO THE OFFICE ACTION:

CLAIMS REJECTION UNDER 35 U.S.C. § 112:

The Office Action indicated rejection of claims 1 - 7 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, in claim 1, line 2, the term "type" was viewed as extending the scope of the expression (planetary gear) so as to render it indefinite.

A transmission of planetary gear type (emphasis added) is generally known for variable gear systems used in a wide range of vehicles. However, for improved clarity, claim 1 has been amended to recite "a transmission including a planetary gear drive." Expected ready recognition of the term "planetary gear drive" overcomes the rejection of the claims under 35 U.S.C. §112, second paragraph. For this reason, Applicant requests that the Examiner reconsider and withdraw the rejection of claims 1 - 7 and indicate their allowance in the next paper from the Office.

CLAIMS REJECTION UNDER 35 U.S.C. § 102:

Statement from the Office Action

Claims 1, 2 and 6 are rejected under 35 U.S.C. §102(b) as being unpatentable by Mendel ('132). As to claim 1, Mendel discloses a gas turbine arrangement (column 5, line 45) having a planetary transmission (1) with a fixed planet carrier (23), and an arrangement for driving at least one auxiliary unit (compressor), the auxiliary unit being operatively connected to a planet wheel shaft (9, 9a) forming part of the transmission.

As to claim 2, Mendel discloses the auxiliary unit being directly connected to the planet wheel shafts via rotors (13).

As to claim 6, Mendel discloses that multiple auxiliary units can be directly connected to each planet wheel shaft (9, 9a).

Summary of the Reference (Mendel - United States Patent No. 5,382,132)

The reference of Mendel teaches a "Toothed Wheel Gear Unit for a Compressor System." Quoting from the Abstract of the reference, "the gear unit for a compressor system includes a central wheel gear, which drives output shafts connected with one or more compressors by way of pinions on the output shafts." The reference at column 1, lines 7 - 9 further states, "The invention relates to a compressor system (emphasis added) having a toothed wheel gear inserted in the drive train between a drive unit and a compressor region of the system." A compressor system of the type described by Mendel includes a toothed wheel gear unit wherein "tilting stresses on the gear wheels are reduced and housing dimensions can be kept as small as possible," (see column 2, lines 14 - 17).

Comment

A particular difference between the present invention and the reference is the field of each invention. Mendel describes a compressor system as the central subject matter of the reference. Consequently, the improvement that reduces tilting stresses on toothed wheel gears of a gear unit provides benefits to the operation of the compressor system that is an essential, internal component of a gas turbine engine. The Office Action's apparently arbitrary designation of a compressor as an auxiliary unit seems, in this case, to be improper, as will be explained further below.

The present invention describes a "Gas Turbine Arrangement," that includes a transmission, driven by the gas turbine. The present application on page 1, paragraph [0004] identifies the main components of a conventional gas turbine arrangement as the gas turbine engine, the transmission and the generator.

It is known that all gas turbine engines consist of a compressor, combustion system or chamber, and one or more turbines. The compressor and turbine are always connected with a common shaft which is supported by bearings. This indicates that Mendel addresses the gear system normally placed inside the front of the housing of a gas turbine engine to drive a compressor that delivers compressed gas to the combustion section of the engine. The compressor is an integral part of the gas turbine engine, not an auxiliary unit as suggested by the Office Action. Figure 1 of the reference illustrates rotating impeller wheels (**13**) which operate at high revolution rates to throw gas outwards at velocities required for gas compression.

The present application in Figure 1, Figure 2 and at page 2, paragraph [0016] shows that the claimed subject matter addresses a transmission of planetary gear type identified by numeral **1**, which is clearly a separate unit external to the gas turbine engine that includes the compressor (**31**), the combustion chamber (**32**) and the turbine (**33**). Transmissions of planetary gear type are known to one of ordinary skill in the art as variable gear systems used in a wide range of vehicles.

Mendel teaches an output shaft (**9a**) having a rate of rotation of 70,000 rpm (column 6, line 36) for driving a compressor impeller (**13**) of a gas turbine engine. The compressor can hardly be considered as an auxiliary unit when a significant portion of the description of Mendel

emphasizes the direct relationship between the compressor and an output shaft driven by a pinion directly engaging a main gearwheel (see column 4, lines 48 - 55 and column 5, lines 5 - 51).

According to the present invention a transmission of the planetary type is separate from the gas turbine to reduce the high speed of the gas turbine engine (output shaft) to a suitable speed for an auxiliary unit, e.g. a generator (page 1, paragraph [0004]). It will be recognized that the requirements for a gear system used to drive a compressor for a gas turbine engine differ from those for a transmission used for driving an auxiliary unit.

The previous discussion casts doubt on the relevance of Mendel to the present invention since the reference fails to teach either a gear unit external to a gas turbine engine or a transmission adapted to deliver power to drive an auxiliary unit, as required by claim 1 of the present invention. Although the Office Action cites Mendel as an anticipating reference it fails to satisfy the need to describe the subject matter of the present invention with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized by persons of ordinary skill in the field of the invention. The field of the present invention is different from that of Mendel.

For the reasons given, failure of Mendel to anticipate the present invention overcomes rejection of claim 1 and claims 2 and 6, which depend from claim 1.

Given the above, Applicant requests that the rejection of Claims 1, 2 and 6 under 35 U.S.C. §102(b) be reconsidered and withdrawn and that the Examiner indicate the allowance of the claims in the next paper from the Office.

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REJECTION UNDER 35 U.S.C. § 103(a):

Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Mendel (US US 5382132). Further, Claims 4 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Mendel (US US 5382132) in view of Howes *et al.* (US 3204406). Still further, Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Mendel (US US 5382132) in view of Prior Art drawing Figure 1.

Previous discussion disqualifies Mendel as an effective basis for rejection of claim 1 of the present invention because it fails to teach a transmission, external to a gas turbine engine, as a means for reducing the speed of the drive shaft of the gas turbine engine to a speed suitable for driving an auxiliary unit such as a generator. The reference neither teaches nor suggests an auxiliary unit.

Claim 1 of the present invention is patentable over the reference of Mendel. Claims 3, 4, 5 and 7 depend from claim 1 and should likewise be patentable over the primary reference of Mendel whether or not combined with secondary references.

In view of the above, Applicant requests reconsideration and withdrawal of the rejection of Claims 3, 4, 5 and 7 under 35 USC §103(a), followed by indication of the allowance of the claims in the next paper from the Office.

The extensive list of references made of record but not relied upon have been reviewed for relevant content but do not appear to be pertinent to claims of the present invention.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

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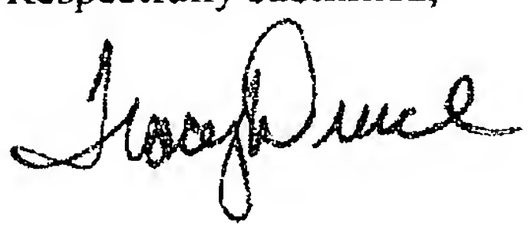
The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, Order No. 7589.139.PCUS00.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner should directly contact the undersigned by phone to further the discussion.

Respectfully submitted,



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